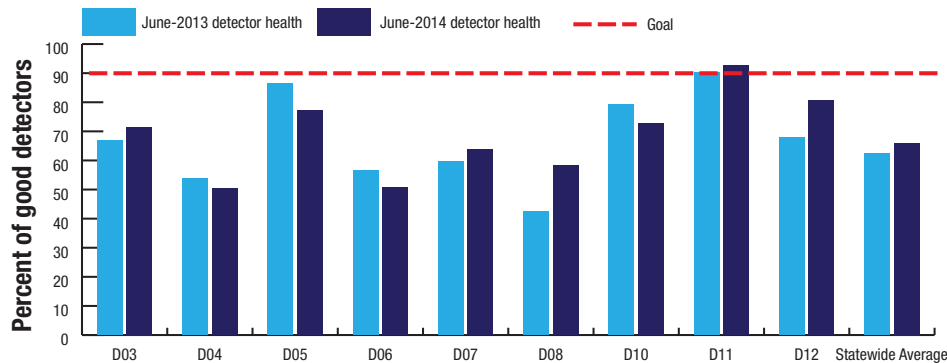


# Improving Operations with Vehicle Detectors



Source: Division of Traffic Operations

Efficiently moving from point A to B affects the state's economic and daily livelihood. We depend on California's transportation system to drive to work, get agricultural and manufactured products to market, and get to recreational activities we enjoy. The efficient and safe operation of California's roadways depends on maintaining and investing in traffic management systems. The thousands of vehicle detectors imbedded in urban freeways are a critical component of our traffic management system. Healthy detectors are essential to keeping California's transportation network efficient.

Determining travel time—and ways to maintain and improve consistency in those travel times—relies on dependable data. It involves monitoring use, creating methods to control and optimize capacity, and avoiding congestion. Vehicle detection sensors help us do that. They also help us control signalized intersections and ramp metering lights. Real-time detection is also necessary for collision response and automated traveler information systems, such as the popular electronic highway message signs. Caltrans operates transportation management centers throughout the state. These centers rely on operable detectors and help us monitor highway conditions within a region. We also use sensor data to monitor travel performance and make informed decisions on how to invest limited system operations dollars.

The detectors collect traffic volume and speed data and send the information to the management centers every 30 seconds. This allows us to

monitor and evaluate the highway system in real time. Not only do they provide real-time conditions, but the data also helps with long-term planning and traffic management.

Properly functioning or “healthy” detectors help us efficiently manage our highway system, and the fewer healthy detectors we have, the more challenging it is to keep the traffic moving smoothly. Our current statewide goal is to have 90 percent of our detectors healthy. To date, 66.5 percent of our detectors are healthy. This is a slight increase from the 64.6 that was reported in the *January 2014* issue of the *Mile Marker*.

We are short of our goal to have 90 percent or more of our vehicle detectors functioning properly, and it will be unlikely we will achieve our goal with our current funding levels. Some detectors have been damaged due to copper wire theft, and many have reached the end of their life cycle. Replacing and upgrading elements to maintain the health of the transportation management systems improves the effectiveness, efficiency, and safety of California's roadways. To continue to maintain or improve the number of healthy vehicle detectors on the most congested areas of California's highway system, we need to continue to invest in our traffic management systems, but funds are limited, so we have to prioritize our projects and continue searching for a sustainable funding source.

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